

The CHEMIST

Bulletin of

THE AMERICAN INSTITUTE OF CHEMISTS, INC.

Published monthly at Easton, Pa.

FLORENCE E. WALL, *Editor*, 345 East 68th Street, New York City

OFFICERS

FREDERICK E. BREITHUT

President

W. M. GROSVENOR

CLARENCE K. SIMON

HOWARD S. NEIMAN

Secretary

430 E. 57th St., N. Y. C. *Vice-President*

Treasurer

233 Broadway, N. Y. C.

COUNCILORS

Past Presidents

1930

1931

1932

HORACE G. BYERS

HERBERT R. MOODY

ALLEN ROGERS

NEIL E. GORDON

M. L. CROSSLEY

CHARLES L. REESE

FREDERICK W. ZERBAN

CHARLES H. HERTY

TREAT B. JOHNSON

MILTON C. WHITAKER

FREDERICK W. ZONS

A. P. SACHS

Pennsylvania Chapter

HENRY ARNSTEIN

New York Chapter

BENJAMIN T. BROOKS

Washington Chapter

JAMES N. TAYLOR

VOLUME VII

FEBRUARY, 1930

NUMBER 4

TABLE OF CONTENTS

	Page
The Medal Award.....	3
Chemistry—A Profession.....	5
Ethics—What Are Ethics?.....	8
Disarmament and Dyes.....	11
Chemistry—A Means to an End—The Chemist as a Salesman.....	13
Apropos of Ethics.....	17
The National Council.....	19
News of the Chapters.....	21
Editorial.....	23
Employment Notes.....	25
The Members' Forum.....	27
The New Members.....	29

Application pending for second class entry at Easton, Pa., post-office.

AMERICAN INSTITUTE OF CHEMISTS

FREDERICK E. BREITHUT
PRESIDENT
WILLIAM M. GROSVENOR
VICE-PRESIDENT

OFFICE OF THE SECRETARY
2110 WOOLWORTH BUILDING
233 BROADWAY
NEW YORK, N. Y.

CLARENCE E. SIMON
TREASURER
HOWARD S. NEIMAN
SECRETARY

January 27, 1930

Mr. George Eastman
Rochester, New York

DEAR SIR:

The American Institute of Chemists has the honor to inform you that you have been awarded its medal for "noteworthy and outstanding service to the science of chemistry and the profession of chemist in America."

The official award will be made at our annual meeting, Saturday, May 10, 1930, at Philadelphia, Pennsylvania, and you will be later advised of the details of the arrangements.

We trust that you will favor us with an address, the subject of which will, of course, be left to you.

May we add that we are proud thus to show you the appreciation of the American chemists, and to do you honor for the service you have rendered.

Yours respectfully,
THE AMERICAN INSTITUTE OF CHEMISTS
FREDERICK E. BREITHUT, *President*
HOWARD S. NEIMAN, *Secretary*

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

January 30, 1930

Messrs. Frederick E. Breithut, President
and Howard S. Neiman, Secretary
American Institute of Chemists
New York City
GENTLEMEN:

Your letter of the 27th inst., notifying me that I have been awarded the medal of the American Institute of Chemists, is received. I feel highly honored by this award and accept it with great pleasure. I regret to say, however, that it will be impossible for me to comply with your suggestion that I make an address on the presentation of the medal as it is entirely outside my line of ability.

Sincerely yours,
(Signed) GEORGE EASTMAN

THE MEDAL AWARD

The recent announcement of the award of the Institute medal to Mr. George Eastman has given deserved publicity to an achievement of the Eastman Kodak Company which has been little known or appreciated by the public at large.

Kodaks are known the world over. Kodaks and kodak films, in good condition, are to be found in even the most remote and unsuspected corners of civilization; or if not, demands the irate traveler who just takes all these things for granted, why not?

The expansion of Mr. Eastman's original enterprise for simplifying and popularizing photography into the enormous industrial business of today is an outstanding example of what chemical research and the application of scientific discoveries actually can do toward developing almost inexhaustible possibilities in a business.

A chemical laboratory was one of the first buildings to be erected at Kodak Park, and in it Mr. Eastman always had the best chemists and trained technical men available, working on whatever chemical processes could be useful to his varied projects. Another laboratory, now one of the greatest institutions for research in the country, was established in 1912, specifically to deal with problems in the fundamentals of photography, but also to carry on investigations in all lines of work which might be of interest to the company. The results were so effective and far-reaching that the Eastman Kodak Company is now practically a self-contained chemical manufacturing plant.

But it was the establishing, in 1918, by this research laboratory of a special department of synthetic organic chemistry that brought Mr. Eastman to the front rank of the benefactors of modern science. The primary object of this action was to insure the complete independence of the United States in regard to the various synthetic organic chemicals which were so seriously needed for research purposes. The co-operation and active support of educational institutions, manufacturers, and chemists in all fields of activity insured the success of the project from the very beginning. Close communication and co-operation with all available sources of supply and a continuous program of active production have increased the number of these high quality organic chemicals to over 2600—more than are available in any other country.

Public recognition of this great contribution to the science of chemistry was accorded to Mr. Eastman in 1925 when the Synthetic Organic Manufacturers Association made him an honorary member of that association. The American Institute of Chemists awards its medal to Mr. Eastman for what he has done not only for the science of chemistry, but also for the profession of chemist in America.

It was by acting on the suggestion of an assistant—that he use a solution of nitro-cotton in wood alcohol—that Mr. Eastman found the film base which he had been so long seeking. Throughout his entire career, he has always recognized most generously the great value to him of the chemists of the country, he has always given due credit to those of his chemists and technical workers who have performed signal service in advancing his enterprises, and above all he has shown his appreciation by material benefactions to the institutions in which they were trained.

The most recent list of Mr. Eastman's gifts shows a total of more than sixty million dollars to educational institutions, most of which has gone to the University of Rochester, and to the Massachusetts Institute of Technology—perhaps as a tribute to the chemists and engineers who went from there to assist him in building up his great business.

To quote a pertinent paragraph from the latest catalogue of the Eastman Organic Chemicals:

"In this work we regard ourselves primarily as serving the chemists of the United States, and we invite the co-operation and advice of all. We shall be glad to learn of new or rare organic compounds available for our purchase, of new sources of supply, and of chemicals required, since we desire not only to prepare materials themselves, but also to act as a medium for the mutual assistance of organic chemists."

And just one more—a personal tribute:

"If, as Dr. A. D. Little says, 'Chemistry is the science of the transformation of matter, and as we learn through chemistry to control these transformations, the way is opened for the creation of new wealth in vast amounts,' the truth of this has been well demonstrated by the history of the Eastman Kodak Company. Many years ago, Mr. Eastman learned to apply chemistry to the control of the transformation of the materials which he used, and through the photographic science and art which is now a part of our daily life, he has applied that knowledge to create not only wealth, but also service and happiness for all mankind."

The American Institute of Chemists is indeed honored in having this opportunity to honor Mr. George Eastman.

F. E. W.

PLEASE PASS THIS COPY OF *The* CHEMIST ON TO SOME ELIGIBLE CHEMIST WHO IS NOT YET A MEMBER OF THE INSTITUTE. ADDITIONAL COPIES, AND AN APPLICATION BLANK MAY BE OBTAINED FROM THE SECRETARY, HOWARD S. NEIMAN. SEE FORM, PAGE 32.

CHEMISTRY—A PROFESSION

ALBERT P. SACHS¹

Some people who do not quite understand the purpose and the function of the Institute, wonder why so much emphasis is placed by it upon the "profession of chemistry."

The truth is that chemistry is both a *science* and a *profession*. As a *science*, it has advanced the welfare of the world to such an extent in recent years that we may justly call the present era "The Age of Chemistry." It has brought, as a science, wealth to the nations, health, luxury, and has broadened the outlook of mankind. Its importance cannot possibly be exaggerated and its future is limitless.

But the *profession* of chemistry, although closely intertwined with the science of chemistry, is still something apart from it. Chemists at one time were chiefly scientists or educators—men, famous or obscure, working at individual research or teaching at the centers of learning. But as chemistry increased in importance in our industrial and economic life, positions arose where men, trained in chemistry, were needed to select and evaluate and control the raw materials, the processes, and the products of industry. Their work, although guided by the scientific knowledge accumulated by their predecessors, was not fundamentally

a work in science but rather a work in industry.

Even today the science of chemistry and the profession of chemistry can hardly be separated in many cases. The man who is attempting to study reaction velocities in gas mixtures in glass cylinders or bulbs at a university laboratory is engaged in the practice of the science of chemistry. The man who is engaged in sugar control work or in managing a chemical laboratory of a varnish factory or in the fermentation industry is primarily practising the profession of chemistry.

Similar distinctions exist in other fields of human endeavor. There is painting, the art, and painting, the craft. A Leonardo da Vinci or a Gauguin is primarily an artist. Many men who have learned at art schools the elements of the art as handed down by their great predecessors and voiced by their great contemporaries become craftsmen, decorating textiles or designing furnishings for houses or doing skillful advertising work. Most men who handle paints are craftsmen, not artists. Even in this case there are border-line instances, like that of Cleland, the artist, doing advertising work, which is usually considered to be only in the province of the craftsman.

¹ Dr. Sachs is an internationally known consulting chemist of New York; Science Editor of *The Evening World*; a charter member of the Institute, who has served almost continuously on the National Council; Editor of *The CHEMIST*, 1928-29.

A scientist or an artist may have great ideals which will lead him to devote his life to his art or to his science in the attempt to achieve distinction or to find new ideas and concepts without regard to success or even to comfort in life. But most people are not martyrs or anxious for merely posthumous fame. They desire to lead normal, human lives, to enjoy comfort, to raise families, to have security, and to lead a life with comparative ease. It is to the interest not only of the individuals who desire these normal lives, but also of society to provide the possibility of such security to most of its members. A social organization consisting only of scientists and artists might be as badly off as one without a single scientist or artist.

Most of the chemical work today is purely professional, as distinguished from scientific. Professional chemists undoubtedly desire to give the best that is in them, and to merit the success and the comfort in life to which they aspire but they do not desire to be martyrs to a cause. They have in some cases no great inspiration to lead them to a distant goal in spite of all kinds of obstacles and sufferings. Not all of them are willing to sacrifice their families in the hope that their merits will be recognized after their death. For these professional chemists primarily the Institute exists.

The Institute aims to improve their training at the start, to set

up better and wiser standards of education, to train abler chemists to the extent that better education can make abler chemists.

The Institute seeks to establish a minimum but high standard of competence for chemists. This standard of competence is founded not only on a sound and improving educational basis, but also on sound and successful experience in laboratory, plant, or schoolroom. The qualifications for fellowship are expressions of this practical aim of the Institute.

The Institute, in seeking to improve the educational standards of those who are learning to be chemists and in naming high qualifications of competence as expressed in terms of experience and success, is engaged in the practical business of selecting for public recognition as qualified chemists, entitled to call themselves Fellows of the Institute, the right kind of men. It is lending dignity to the appellation of chemist. It is informing the public and guiding the chemists and the schools which train them.

Chemists desire adequate recognition and compensation. The scientist is sometimes compelled to forego the comfort of present recognition. He may be striving to upset current ideas and introduce revolutionary ones. There may be no one willing to pay for such unconventional services. But most men are engaged in going industries which must control their raw materials and processes, find new out-

lets for their products, seek lower costs and more uniform output, and engage in all those practices and refinements which are the goal of modern industry. Much of this work is routine, all of it is necessary and essential. Some of it is genuine research, part of it is truly scientific in nature, and much of it is based on genuinely scientific principles.

On the whole, however, the work of these chemists is purely *professional* work, professional as distinguished from purely scientific. Those who practise the profession are entitled to recognition, adequate compensation, and protection from unfair competition by untrained and incompetent persons.

A large problem is the winning of adequate compensation. Offhand it may be said that no particular method is in itself holy or unholy. Trade unionism contains nothing sinful of itself. It works successfully for plumbers and bricklayers, garment makers, and teamsters. The writer believes that it is an unsatisfactory method for chemists. Its unsatisfactoriness lies in the fact that it is unlikely to be successful. A problem should be attacked by those methods which are likely to yield success.

A discussion of social problems such as the organization of chemists, and the procedure desirable because probably successful, are large items not to be tossed about lightly. Perhaps a few random ideas will help.

A large plant, let us say, a paper-

mill, employing a thousand men in the various branches from heavy unskilled labor through the various skilled crafts including engineers, machinists, and machine-tenders, requires the services of perhaps two or three chemists. A strike by the thousand men led by their various unions has a chance of success, because the plant cannot operate without the thousand men. A strike by the two or three chemists, union or no union, is extremely unlikely to be successful because the mill can operate without the chemists. In the course of time it will prove a very expensive luxury to a mill-owner to operate without chemists, but he can operate without them. Although the strike is a poor weapon in the hand of the chemist, it is sometimes used. The chemist who tells his employer he must have a rise in salary or he will leave is using the threat of the strike. What is justified for one chemist is justified for groups of chemists and is more likely to be successful for groups than for individuals. But the writer firmly believes that the union and its power to strike are poor weapons for the chemist.

Judges in Federal and State service have won adequate compensation not by forming unions and striking and not through any working of the "law of supply and demand." The judicial profession has acquired dignity and respect by a general level of competent performance and through a recognition

(Continued on page 31)

ETHICS—WHAT ARE ETHICS?

A meeting devoted to "Professional Ethics," such as was held by the New York Chapter on January 10th, is most appropriate in this day and age, when formerly specialized words—such as *ethics*, *psychology*, *crystal-lize*, etc., are so bandied about in common parlance that many of their users have no clear notion of their real meaning.

When one thinks of *ethics* in the true, professional sense, one's mind naturally turns to the medical fraternity, who have guarded from time immemorial the principles of professional conduct which guide them today; and no one could have been found better qualified to discuss professional ethics than Dr. Linsley R. Williams, the Managing Director of the New York Academy of Medicine.

Dr. Williams explained himself as a physician who does not practise, and therefore perhaps better able to view his profession and its members objectively. He gave a brief definition of *ethics* in general as meaning, from its very derivation *customs* or *manners*, and told something of the early origin of the present accepted code of the medical profession.

Medical ethics go back more than four thousand years, as testified by many extant Babylonian and Hindu records, and apparently these principles of conduct were promulgated in absence of any written law controlling medical education. The Hippocratic oath dates from about 400 B. C. It has been termed "the greatest monument to Hippocrates, . . . an example of idealistic precept which has never been surpassed, and which, as the common heritage of medicine and pharmacy, serves as the starting point of all codes of ethics, however modern they may be."¹

In the course of time this oath has been modified somewhat. It is still taken by all graduates in medicine, but swearing "by Apollo" has gone out of vogue; likewise the medical practitioner is no longer obliged to promise that he "will cut no man whatever for the stone," because the ban of the church against dissection was lifted in the thirteenth century.

Written codes of ethics are, in fact, relatively modern. The present code of the American Medical Association was formulated in 1847; the principles of practice in Great Britain were formulated by Percival in 1850; and the *Medical Practice Act* (a special code for New York State, which has never accepted the A. M. A. code) was drawn up in 1851. All these have been adopted in the interests both of the members of the profession and of the public. In them certain acts are designated which must be performed, and certain others which must not be performed under all circumstances.

The physician is actually a public health officer; he must report all births, deaths, communicable diseases, epidemics, etc. It is to be sup-

¹ Charles H. LaWall, "Four Thousand Years of Pharmacy."

posed that he will treat all his patients fairly, and to the very best of his ability. Theoretically, he absolutely must not solicit or accept a rebate on fees received for consultation.

Dr. Williams touched on the analogy of the medical code to that of law, in that both codes serve as a guide of the moral conduct of the members of the profession, and added that the medical practitioners seem to adhere to theirs fairly well. Expulsions from the County Medical Society are very rare—but then, no physician may testify against a colleague, nor is there any law which can oblige him to do so.

On the other hand, in the legal profession there is a regular established machinery for the maintenance of ethical practice, and everything is done to prosecute violators.

Advertising, both by medical practitioners and of medical preparations and apparatus, came in for a fair share of discussion. The speaker told of the work that is being done by the New York Academy in co-operating with manufacturers and advertisers of medical products, and in promulgating medical news.¹ An editorial from *The New York Times* of about a year ago has this to say of it:

Fundamentally the object is to put the public in closer touch with the modern miracles worked by science in the prevention and cure of illness. It is a long step away from the old habits of secrecy surrounding the practice of healing. Medicine men, witch doctors, and all the ancient magicians who made the sick well cast such a spell of darkness over the art that it has retained to this day a tinge of sorcery. To dispel the vestiges of secrecy and to develop a direct, intimate channel of communication between the honest physician and the public is the purpose of the new office.

In one particular the public will be served indirectly, but most usefully. Newspapers receiving information of new medical discoveries are urged to consult the bureau in order to avoid the publication of premature or fraudulent announcements. Despite modern enlightenment, many people are deceived by charlatans. These will be more rapidly tripped up in their quackery by free appeal to the bureau....

From what Dr. Williams said of the bureau, it has served its purpose admirably; there now exists between the Academy and the Press a friendly reciprocity which is mutually beneficial.

As to personal advertising and publicity seeking, and "press-agenting" on the part of the physician, all these are of course, vigorously condemned when, as, and if the perpetrator can only be caught.

The increasing number of physicians who enter commercial work and the employ of manufacturing concerns presents another problem for ethical practitioners. They must do everything possible to maintain standards of manufacturing, and restrain themselves from making any exaggerated claims for a product or an appliance.

This is quite understandable. Whereas extravagant claims made by

¹ In *The CHEMIST* for April, 1929, comment was made on the establishing of this bureau for "Public Relations" on matters medical, with the suggestion that matters chemical need something of the sort.

a manufacturer for his cake of soap may do no particular harm, wild promises made for a proprietary remedy may not only delay proper medical treatment and cause undue expense, but also adversely influence the mental state of the patient and frequently cause physical harm.

The Bureau of Investigation of the American Medical Association maintains a chemical laboratory for the testing of proprietary articles, and vigorously prosecutes fraud. Any suspicious product may be brought to its attention; the claims are carefully investigated, many manufacturing concerns are fined and some are driven out of business.

Dr. Williams spoke for the physician who in the course of his work with a house which manufactures medical and pharmaceutical preparations learns definitely that a certain preparation does not justify the claims made for it. Chemical manufacturing concerns can advertise and place on the market pharmaceuticals and standard drugs which will not do actual harm, but which are inert and therefore do no actual good. And he asked us what an ethical chemist would do if he learned such a truth about the products of the manufacturing house which employs him.

The discussion which followed the formal talk took more time than the talk itself. Who could resist the opportunity to ask for reliable information on all the points that one always wants to argue with a physician? "Fee-splitting," decoying of patients from one physician to another, "burying their mistakes," condoning known error because it is "unethical" to expose it, accepting commissions on recommended preparations or appliances, the great expense and upkeep on specialists, etc., etc.,—all came to light, and Dr. Williams tried to cover them all satisfactorily. He asked in return that we give consideration to the fact that since the personal equation enters so largely into all such matters, the profession as a whole can hardly be held responsible for all breaches of conduct in individual members.

Dr. Clarke spoke of "academic ethics" in England, where a chemist tries not to tread on others in the same field. Mr. Quigley brought out the value of background in judging chemical testimony, because of the lack of the strict standards of medicine and law.

Further discussion touched on these points: a chemist cannot be held responsible for advertising claims; on analysis, one can check a chemist, but not on advice on specifications, etc.; disclosure of professional secrets should be punishable; executives usually talk less than chemists because they do not know what is, and what is not secret; chemists usually talk freely among themselves without fear of breach of confidence; "chemistry itself is a science, but the practice of chemistry is an art, just as the practice of medicine is an art."

(Continued on page 30)

DISARMAMENT AND DYES

BY FREDERICK E. BREITHUT

[This article was written by Dr. Breithut in November, 1921, at the time of the Washington Peace Conference. Published originally in *The New York Tribune*, it attained wide publicity and was reprinted in several journals of that year. Since "disarmament is today's paramount thought" once more (one might say *still!*) we were reminded of this article, and we offer it without comment. That is, except to say that we hope you will find considerable food for thought as you reread, eight years later, the general topics and specific suggestions which it covers.—EDITOR]

Disarmament is today's paramount world thought. All sane men and women are agreed that the costs of preparation for war are intolerable.

We all want to disarm. But we all want to be safe at the same time. That is the real question—how to disarm without losing our security from attack or invasion.

There is a way to do this. The way is so clear and so simple that very few see it.

What is the way?

The way to disarm safely is to build and operate dye and synthetic organic chemical factories. Men may talk themselves blue in the face, red in the brain, and yellow in the spine, but they will get nowhere until the white light of reason shows them this simple truth; the way to disarm safely is to build and operate factories for making dyes all the way from coal tar.

Why is this so?

Coal Tar Uses

This is so because:

1. The same materials used to make dyes are used in making explosives and poison gases.

2. The same machinery and similar general processes are used in making dyes, explosives, and poison gases.

3. The same men who have been trained in making dyes and kindred substances can promptly use that experience in making explosives and poison gases.

4. The same money that in the form of taxes would be spent on useless armament can be better expended by citizens investing in the useful peace-time industry of dye making.

If we have these four essentials developed—chemical materials, chemical machinery, chemical men, and money—we need no armament. If we have the armament we still need the four essentials—chemical materials, chemical machinery, chemical men, and money.

What is disarmament?

By disarmament we mean bringing nations to an equality in means of waging war. This may not be

the dictionary definition, but it is actually what most of us have in mind. It is the purpose of the conference at Washington.

Now suppose that each of the major powers had the same number of battleships, the same number of torpedoes, the same number of guns, the same number of shells the same sized armies, and the same sized navies. Would they then be equal in means of waging war?

They would not!

The nation with the best developed coal-tar chemical industry would have a great advantage, and the bigger the industry the bigger the advantage. That is why Germany held out so long against the world in the recent war.

Germany still has her dye and other coal-tar chemical plants intact. Therefore, she has just that much advantage over the rest of the world.

What can we do about it?

1. We might destroy Germany's organic chemical plants. This is unthinkable.

2. The League of Nations might operate Germany's organic chemical plants, using them for making the dyes, drugs, and fine chemicals for the entire world. This might be an efficient way, but it is impracticable. These plants would all be on German territory. In the event of war Germany could hardly be kept from taking them into her hands. The rest of the world

would be left about where it was at the outbreak of the World War.

3. There remains a third method. Let each nation develop for itself the one peace industry—the coal-tar chemical industry—which has the power of conversion into newer forms of war. This method is simple, sane, practicable, and efficient.

If we have our own dye and organic chemical industry we are on the road to having other industries which we need.

Industrial independence is as important as political independence.

The dye industry in itself is a small one. But there are other industries which group around it as the branches of a tree spring from the trunk. If we can make dyes we can make perfumes, flavors, tanning materials, photographic chemicals, rubber chemicals, paints, bacteriological stains, artificial resins, solvents, disinfectants, roofing materials, road binders, motor spirits, drugs to soothe and heal the sick, and no man knows how much else. For all these come from coal tar and they are all covered by the term "the coal-tar chemical industry."

The possession of its own coal-tar chemical industry is the nation's best assurance of industrial independence, preparedness for peace, and the possibility of disarmament with safety.

During the last six years the United States has built up a dye

(Continued on page 26)

CHEMISTRY—A MEANS TO AN END

I. The Chemist as a Salesman

BY RAPHAEL F. REVSON¹

It is not long since that the expression that salesmen are born and not made was believed to be a truth, if not a self-evident fact. Most of us have been taught to believe that the salesman is a "type" as unique in his way as a true Bohemian, an absent-minded professor, or an artistic genius. We have pictures both in our minds and in the funny papers of a genial, well-built man, with a slight tendency to corpulency, strong cigars, and *risqué* stories. He called us "Bill" by the time of his third visit and his entrée was mostly, if not entirely by reason of a dominating personality. If he was experienced enough, he knew something about his line besides prices and deliveries, but essentially his success was due to an unconscious knowledge of how to handle people, and often included a good capacity for liquors.

This same type is still extant in many lines. However, with the growth of big units, selling and purchasing have been put on a higher level. The cordial handshaker has to compete with men who know their merchandise fundamentally. Sentiment and friendship which gave the old drummer the business are frequently replaced by figures.

Today industry expects the sales-

man to be a real representative of the house. He must be prepared to advise the purchasing department of the uses of his material and in many cases is called upon to demonstrate its efficiency. He must have a good knowledge of the characteristics of his competitors' goods, and be able to state facts, showing why his merchandise or raw material will be superior to others. It stands to reason that price cannot always be a determining factor. Price cutting must end somewhere. No technical man is necessary in purely a price war. It is precisely under such conditions that the chemist as a technical salesman can prove his worth.

It is true that many of the purchasing agents and buyers belong to the same school as the old drummer. With them this article is not concerned. Within the next decade most of them will be out. The modern buyer of a large industry is in many cases a technically trained man. Working in conjunction with him is a laboratory for the testing of goods offered. Standards are set by the laboratory or production departments. The buyer cannot sacrifice quality for the sake of price. In those industries essentially chemical, it is not unusual to find the purchasing agent a chemist, or if not a chemist,

¹ Mr. Revson is with Hammill and Gillespie, importers and manufacturers of clays and mineral products, New York, as chemist in charge of sales development.

one with some chemical training. It is needless to say that for such industries, a chemist purchasing agent is perfectly logical, and usually productive of gain for the house employing his services. To a great measure the success of the chemist as a salesman depends on either the chemist purchasing agent or the existence of a laboratory for testing materials. The writer has found invariably that the chemically trained salesman could retain his interest, and give him better information and service than non-technical men. For that reason alone, apart from price, quality, etc., they were better assured of an audience.

It is to be assumed that in addition to his technical training, the chemist-salesman has the same elements of common sense that the present average salesman possesses. It is not to be presumed, however, that all chemists do possess this common-sense adaptability. You, yourself, probably know a number of chemists who would have small chance to succeed in sales. The common error of the chemist when meeting the non-technical buyer, is to confront him with so many technical matters that the mind of the buyer is confused or filled with repugnance at what he considers the chemist's show-off attitude. Everyone does not concede the superiority of the chemist, and he should use his advanced knowledge cautiously and gradually. *Cautiously* is the right word here.

Buyers will sometimes simulate ignorance; the salesman will make a great speech which will be later turned completely to his discomfiture, when it is discovered that the buyer is really leading him on. In other words, chemistry in selling should be used as an instrument. Even in those fields essentially chemical, technical knowledge is only an adjunct to other qualifications.

The advantages of the chemist for salesmanship, assuming that he has the other qualities of ordinary man, are more or less obvious. The fundamentals of salesmanship are largely in the personality of the man. Unless his house is so large and reputable as to make his entrée inevitable, he will be handicapped if he is not a student of practical psychology (human nature). He must have something to sell that can be used at a competitive price in his particular market. To be a chemist presupposes a college training, and therefore a certain amount of culture, an important element in the entrée. This culture is a great advantage in some lines. He must always present at least a neat, if not a fashionable appearance, but the salesman who approached the corner grocery store in a cutaway with a dissertation on relativity would be worse than asinine.

Since chemistry is a science of matter, it should be particularly easy for a chemist to learn the line much more quickly than an average

untrained individual. While it is conceivable that a salesman with knowledge of chemistry could sell furniture, books (fiction) and carpet tacks better than one untrained, it is assumed in this article that the chemist would choose as his field such items as raw materials, chemicals, compounds, chemical devices, etc.; in other words, fields in which he could use his knowledge to greater advantage and on more frequent occasions.

In common with the engineer, the chemist is analytical. He will analyze the market and the prospect. When he has sought for the answer for a non-sale and is stumped, he will probably think only after a long time that the buyer may have been crooked. The grafting purchasing agent is not so prevalent in the chemical field as of yore, but the answer may sometimes be found in a department manager who discovers a dollar bill in each case of merchandise from a certain house. Graft is still prevalent. The writer does not know the answer. The chemist is less equipped to handle it than any other type, because honesty is one of the properties or characteristics of the chemist. If his ethics are high he should be glad to be associated with a house which will not tolerate graft.

If ever there would be published the lists of materials used by a number of our great industries the average chemist could have a great laugh over some of their

purchases. Disguised under different names, some concerns buy identical products at different prices. Many buy trade-marked items and pay relatively fabulous prices for comparatively cheap materials. The advantage of the chemist in selling such concerns is obvious. If he can obtain samples, he can frequently obtain business for his house and gain the good will of the buyer at the same time. In many concerns the chemicals are regarded as rather mysterious items. Fear of change is possibly more common than in other fields.

However, it is not to be believed that the chemist does not have disadvantages in selling. His very ethics may injure him in the eyes of his house. It is not easy for the chemist to sell a common chemical at some ridiculously high price under a trade-marked name. The ordinary salesman who does not know that sodium chloride is common table salt would probably have no scruples in selling it for several times the market value. Nor could the chemist sell, for example, a piece of aluminum, four by four inches, costing perhaps three cents, for one dollar. (This was actually being done in a department store where it was offered for the electrolytic cleaning of silver, in conjunction with washing soda.) Then too, he would shrink at misrepresentation or exaggeration. However, these might be qualities of any salesman of high quality as well.

Some industries claim that the chemist-salesman is a disadvantage in that the client feels that knowledge of his manufacturing processes are safer in the hands of non-technical men. This is probably a narrow sighted view, but it prevails in some quarters. There is danger that the chemist may feel that he knows the needs of his clients better than some of the less learned but more practical men in the clients' concern. It is not at all infrequent that practical methods work out better than theoretical considerations. No chemist can expect to be expert in all of the industries to which he will attempt to sell. This danger will surround younger aspirants in this field rather than older and longer trained representatives.

There are advantages in the chemical training apart from the knowledge of one's own merchandise. These lie in his ability to understand the needs of the clients from the clients' own technicians; the ability to comprehend specifications and the realization of the danger in many cases of not conforming to them. Of equal importance is the technical knowledge that will permit the chemist to report to his own company the demands of industry as to quality

and properties so that his own concern may produce goods better suited to his trade. Frequently complaints of quality may be adjusted by the chemist-salesman. On a number of occasions the writer has known of complaints entirely unjustified that have been made against materials to protect the blunder of the responsible party. The chemist can often ascertain the real cause.

Finally, those loose, but nevertheless existent bonds of professional fraternity, make entrée easier where opportunity is permitted to interview the technical man. The chemist-salesman is frequently astonished at many of the so-called "chemists," whom unfortunately, he must treat with as much respect as if they were Renssens, Fischers, or Chandlers. Because of this condition, the writer believes that the American Institute of Chemists should be of particular advantage to the salesman. In the first place in a relatively small organization there is more homogeneity; secondly, both buyer and seller recognize the higher ethical plane of transactions; and thirdly, an excellent opportunity is presented in the meetings of the chapters to know individuals with whom he comes into commercial contact.

THE CHEMIST HAS PLENTY OF ROOM FOR ADVERTISEMENTS. IF YOU KNOW OF PROSPECTS WHOSE ADVERTISEMENTS YOU WOULD LIKE TO SEE IN THESE PAGES, PLEASE EITHER SOLICIT THEM DIRECTLY FOR US AND REFER THEM TO US FOR RATES, OR SEND US THE NAMES, AND WE SHALL WRITE TO THEM.

APROPOS OF ETHICS

BY WILLIAM M. GROSVENOR¹

Quite as if he were adding afterthoughts to his excellent discussion of Dr. Williams' address last month, came this very characteristic contribution.

Speaking of "codes of ethics"—there is, of course, no kind of code in any profession which will take the place of personal ethics in the individual. Even Dr. Little's skill in chemistry cannot really "make a silk purse out of a sow's ear;" only an imitation, more or less excellent, and more or less deceptive.

Nevertheless, codes of ethics have done something for the Law, and something for Medicine. It is perhaps only because of the faulty system of licensing men to independent practice, without a period of apprenticeship to older and more responsible men, that Law and Medicine sometimes seem to resemble Charity, or even Liberty. Not only is there the mess which lawyers describe as existing in New York, and physicians describe as existing in Chicago, but actual crimes are committed in their name. It is only by codes, ethical, or legal, or both, that Law and Medicine are enabled to clear up the most flagrant cases. To serve this purpose well, however, codes must be clear, positive, reasonably brief, and thoroughly practical.

In all such housecleaning, the advice of an old lawyer and of a good housekeeper is the same: "Begin at the top and work down." It is well worthy of consideration. While a good code of ethics serves not only as a preventive measure, and as a means of guiding and instructing youth in the formation and development of its own ideals, it must also be exemplified by the mature men of the profession who are recognized and successful in the best sense. Above all, it must be enforceable by the authority of men who are familiar with the work of the profession, who have advanced beyond the closely competitive ranks of the profession, and who are, by governmental authority, made immune from prosecution—as servants and officers of the State.

The lawyers have such an enforcement body in the courts, but the State has failed to adopt the legal code of ethics as law. The physicians have neither such a professional court, nor a law of ethics. In laying the foundation of a recognized *chemical profession*, then, the chemists owe it to themselves and to future generations to profit by the experience of others and plan for both means of enforcement. Also, if in fact *science is knowledge correlated with intelligence*, chemists should be able to avoid

¹ Dr. Grosvenor is a prominent consulting chemist of New York. He is Vice-President of the Institute, and Chairman of the Committee on Licensing.

the mistakes of previous centuries and determine a path toward actually securing what the other professions have so earnestly sought.

To begin with—what should be the chemical code of ethics? Hereto is appended a tentative proposal to shoot at. When we find out what we want our profession to be, and to stand for—*i. e.*, what is the code of ethics that might well be made the law of the State—and not until then, can we direct our effort to secure that end.

IN CONSIDERATION OF ELECTION, OR RENEWAL OF MEMBERSHIP, THE INSTITUTE REQUIRES OF ITS MEMBERS:

1. Observance of the highest principles of professional honor, and co-operation in the enforcement of such observance on all those who call themselves chemists.
2. Upholding at all times, before other professions and before the public, the dignity of the chemical profession.
3. Care, conservatism, and candid honesty in all professional statements, reports, estimates, and testimony, giving credit for work and accuracy to those who are entitled to it.
4. Criticism and correction of all mis-statements made, and co-operation in repressing and punishing all acts done by chemists whenever contrary to professional ethics.
5. Refusal to conceal, condone, or knowingly associate with, or engage in any practice contrary to law or the public welfare.
6. Personal helpfulness and fraternity among members of the profession, and responsible service of other professions and of the public.
7. Refusal to accept compensation in any form from more than one party to any negotiation, agreement, or litigation, without full knowledge and approval of the other parties.
8. Upholding compensation rates to a level at least adequate to insure first-class work, except where gratuitous service at actual out-of-pocket cost is really necessary to an impecunious client.
9. Avoidance and discouragement of all sensationalism, exaggeration, or falsehood—including deceptive reservations—in making representations or reports, and in advertising or testimony.
10. Refusal to undertake work which it is suspected may prove unprofitable to the employer, without first clearly advising the prospective employer of this suspicion.
11. Avoidance of all concealment of professional responsibility and personal liability for professional work, behind any form of legal individuality, corporate, or otherwise.
12. Acknowledgment that every contract, verbal or written, covering professional work undertaken for pay shall be subject to the following

(Continued on page 20)

THE NATIONAL COUNCIL

The sixty-ninth meeting of the Council of the American Institute of Chemists was held at the Chemists' Club, 50 East 41st Street, New York City, on Friday, January 24, 1930.

President Frederick E. Breithut presided. The following councilors and officers were present: Messrs. Henry Arnstein, M. L. Crossley, W. M. Grosvenor, H. R. Moody, H. S. Neiman, Allen Rogers, C. K. Simon.

The minutes of the previous meeting were approved.

The Treasurer reported a balance of \$1602.84 with all current bills paid.

The Secretary presented the resignation of Mr. L. R. Seidell as Councilor, and upon motion made and seconded Mr. Seidell's resignation was accepted with regret.

The President announced a vacancy in the Council thus formed and stated that nominations for the position were in order.

Mr. Frederick W. Zons was nominated. The nominations were closed and Mr. Zons was unanimously elected a Councilor to fill the vacancy caused by the resignation of Mr. Seidell.

Dr. Crossley reported upon the activities of the New York Chapter.

Dr. Breithut reported upon his activities relative to the Municipal Civil Service Commission of New York.

Upon motion made and seconded it was

Resolved, That a Committee be appointed to consider possible Honorary Members of the Institute, and Dr. Breithut appointed Dr. Crossley Chairman of this Committee with power to appoint two associates.

Dr. Crossley appointed Dr. Rogers and Dr. Grosvenor.

Dr. Grosvenor reported for the Licensing Committee.

Dr. Rogers reported for the Committee on Minimum Fees and Salaries.

Dr. Arnstein reported on the Annual Meeting and will submit further details as they eventuate.

The Secretary reported that rebates to the several Chapters up to and including December 31, 1929, were as follows: New York Chapter, \$215.80; Pennsylvania Chapter, \$44.60; Washington Chapter, \$26.60.

Dr. Arnstein reported that because of the many different State laws, he did not deem it possible to obtain group insurance, and Dr. Grosvenor reported similarly.

Mr. Neiman reported the receipt of clippings relative to the British Institute of Chemistry which had been forwarded him by Dr. James N. Taylor, and the Secretary was directed to forward these clippings to Miss Wall.

The Secretary submitted a letter from the Fidelity Company of Hong-kong, China, relative to a drug-carrying seaweed found in China, and the

letter was referred to Dr. Crossley and Mr. Neiman in order that they might submit the information to companies interested therein, and especially to those with which members of the Institute are connected.

The Secretary submitted a letter from the American Academy of Political and Social Science relative to a conference upon *The Second Industrial Revolution* with a request that the Institute appoint delegates, and Dr. Arnstein and Dr. Lukens were appointed delegates.

Dr. Arnstein presented a letter from the Mayor of Philadelphia offering his services in the matter of the annual meeting of the Institute and the Secretary was advised to reply expressing the appreciation of the Council.

Six Fellows, two Associates, and one Junior were elected to membership. Their names appear on page 29.

The Secretary reported that the present membership of the Institute is as follows: Fellows 475; Associates 54; Juniors 13; total 542.

There being no further business to come before the meeting, adjournment was taken.

HOWARD S. NEIMAN, *Secretary*

Apropos of Ethics

(Continued from page 18)

provisions, unless explicitly otherwise provided by written agreement between the parties:

(a) Information pertaining in any way to the affairs of the client or employer, which cannot be readily proved to have been previously known to the member, and/or has not been published and/or become common knowledge, shall be the exclusive property of the employer insofar as it applies to the employer's work and/or to competitive lines, but not elsewhere or otherwise unless specifically received and acknowledged by the member as a confidential disclosure.

(b) When obtained solely from work under the member's exclusive direction, all information in whatever form shall, unless otherwise specifically agreed in writing, be the property of the member, subject however to a shop license, or the non-exclusive right to use, on the part of the payer for said work.

(c) Participation in work with other chemists, engineers, or professional employees of a client or employer does not entitle a member to information which may be so obtained in any form. In general, this falls under class (a) above, with the exception only of that portion contributed by the member himself, which falls under class (b.)

(d) In all cases of doubt, the member must secure the employer's or associate's permission in writing before utilizing the information.

NEWS OF THE CHAPTERS

New York

The regular monthly meeting was held on January 17th, in Room A of the Chemists' Club. Dr. Crossley presided; no business was transacted.

An address which called out the largest attendance of the year was given by Dr. Linsley R. Williams, Director of the New York Academy of Medicine, on the subject, "Professional Ethics."

Dr. Williams stated that he does not practise medicine, which possibly better enables him to judge the ethics of the many practitioners who come under his eye. He gave a brief outline of the origin of medical ethics and spoke at some length on the problems of present-day practice, particularly in the medical profession, but also with some side lights on the chemist.

There was an active discussion in which many of those present took part. Dr. Hans T. Clarke, Professor of Biological Chemistry at the Medical Center of Columbia University, added a brief discussion of the ethical problem in its application to the research teacher.

KARL M. HERSTEIN,

Secretary

As a follow-up on Professor Gordon's talk in January, the next meeting on February 7th, will be addressed by B. Whitney Ferguson, of the Chemistry Department of the Brooklyn, New York, Technical High School.

Philadelphia

The Chapter met at the Engineers' Club, Philadelphia, on Tuesday evening, January 14th, to greet Dr. Arnstein on his return from South America.

Dr. Arnstein related a number of interesting experiences in Brazil, Argentina, and other countries, in which he lectured and acted as consultant for the various governments.

A committee on arrangements for the Annual Meeting was appointed, consisting of Prof. Hiram S. Lukens, Prof. Elmer Bertolet, and Mr. Lyle L. Jenne.

The speakers for the February meeting will be prominent consulting chemists who will discuss "Professional Practice."

A dinner precedes each meeting.

The Pennsylvania Chapter met at the Engineers' Club, Philadelphia, on Tuesday evening, February 4th.

Chairman Arnstein reported on the Council Meeting, and then called on Dr. Horace C. Porter, and Eugene F. Cayo to lead a discussion on "The Relationship of the Chemist to His Client."

They pointed out that the chemist should hire able assistants, and that charges should be high enough to enable him to maintain a high standard of the profession. A client should never be misled. Secrecy for the client should be

observed. In giving legal testimony no aspersion should be cast on the opposing chemist. In proceeding with the client the chemist should get a definite idea of the problem, and then work toward a solution that will be intelligible to the client.

There are several kinds of clients:

- (1) One who knows definitely what he wants,
- (2) One who has a hazy idea,
- (3) One who does not know,
- (4) The sharper who hunts bargains,
- (5) The man who is hard put and needs assistance.

The chemist should always be dignified, even in advertising.

Under the leadership of F. D. Jones and L. Zoole, an intensive membership drive will be conducted.

On Tuesday evening, March 4th, F. D. Jones, Chief Chemist of Phillips & Jacobs, Philadelphia, will lead a discussion on "The Chemist's Relation to Society."

BENJAMIN LEVITT,
Secretary

Washington

The regular meeting of the Washington Chapter was held at the Cosmos Club, January 10, 1930, at which the following officers were elected: Honorary Chairman, Dr.

C. E. Munroe; Chairman, Mr. J. N. Taylor; Vice-Chairman, Dr. C. W. Whittaker; Secretary, Dr. O. E. May; Treasurer, Mr. C. E. Senseman.

After the disposal of business the Chapter was addressed by Mr. W. N. Rehlander, Assistant to the Director of Personnel and Business Administration of the Department of Agriculture, on the subject of "Classification Work as Applied to Professional Workers."

Mr. Rehlander stressed the need of research into the work of chemists with a view of developing specifications for the various classes of chemical work. He pointed out that such specifications, if properly and clearly drawn, would be of great assistance to the Classification Board in the allocation of Government chemists to the grades to which they were entitled by the nature of their duties. It also developed that the average yearly wage of chemists in the U. S. Department of Agriculture is \$3644.

As a consequence of Mr. Rehlander's talk, the local Chapter is planning to work up a system of specifications covering the duties of chemists in each of the several grades of the classified service.

O. E. MAY,
Secretary

HOW DOES YOUR ACCOUNT STAND ON THE TREASURER'S BOOKS? HAVE YOU PAID YOUR DUES?

EDITORIAL

OUR BIENNIAL ELECTION

It hardly seems possible, but here it is time again to think of electing our officers for another two-year term!

The Committee on Nominations has prepared a slate which will soon be sent out for the consideration of the membership at large. We must elect a President, a Vice-President, a Secretary, a Treasurer, and three Councilors to serve three years.

Unless otherwise stated on the ballot, all the present incumbents are eligible for re-election. Additional nominations may be made by, and will be welcomed from any member of the Institute. Members recently admitted to Fellowship are eligible equally with members of longer standing.

All nominations must be entered on the official ballot which you will receive, and all returns must be made directly to the Secretary's office within the time specified on the ballot.

In suggesting additional names, however, please be sure that your nominees are members who "know what it is all about;" who can and will devote to the Institute the time which is necessarily involved in carrying on the work; and finally, who are capable of fostering the aims and furthering the objectives of the American Institute of Chemists:

(1) To give chemists professional solidarity,

(2) To put the profession back of a definite code of ethics,

(3) To insist on adequate training and experience qualifications for chemists,

(4) To educate the public to an understanding of what a chemist is,

(5) To raise the economic status of chemists.

Who will be our officers for the next two years?

EMIGRANT CHEMISTS

Among the items received recently was a page from *The Industrial Chemist* (British) carrying a short article with this title. To quote a bit:

"Some few years ago we attended a meeting at the Institute of Chemistry of a band of British chemists who described their experiences in many different parts of the globe—and a very interesting story it made, too. Also it was at this meeting that a distinguished chemist (Sir Robert Robertson, if we remember aright) declared that it was a pity that we could not keep all our chemists in this country—or words to that effect.

"Now, with that opinion we disagree except in so far as those instances of emigration which are direct results of unemployment. For, apart from the great value of intercourse with foreign nations

or with the Dominions, we believe, especially when we consider the 'new' or undeveloped countries, that the conditions are present which make for the production of that type of chemist many of us have searched for, namely, the chemist who can efficiently occupy high executive posts in the chemical and allied industries. It is declared, with great truth we believe, that in this country the chemist-executive is very rare. Indeed, the very training of the chemist in the average chemical works in this country, fastens him down to very narrow limits.

"In undeveloped countries the conditions are vastly different, the scarcity of the scientifically trained man, the large employment of unskilled labour and the tendency of companies to form self-contained entities gives the chemist a far wider scope to work in."

Then follows a *résumé* of the conditions in a Mexican petroleum refinery, and a detailed account of the almost incredible variety of work and experience available to the chemists employed there. Comment is made also on the adventures of a contributor, "Aztec," whose "experiences have been by no means along a smooth path, nor always along a chemical one. 'All sciences a fasting *monsieur* knows.'" (*Sic!* The italics are ours; we think he must mean *monster!*) Suffice it to say that he has emerged with success perhaps as a direct result of his varied life.

"The emigrant's life is not all a bed of roses...."

While this article was not exactly the inspiration for it, the new department inaugurated this month is actually to be devoted to "chemical emigrants," *i. e.*, to chemists who have strayed, not out of the country, nor even out of their own town, but out of chemical laboratories into other lines of work.

Personally, while we feel grateful for the achievements of those who have devoted their lives to chemistry for chemistry's sake, we believe that the proper sort of chemical education and training does something to the mind which enables a chemist to capitalize his various talents in any other line of work for which he shows aptitude.

Occasionally, those who stray from the practice of pure science have been considered as deserters or renegades, and put on the defensive for an explanation, but fortunately, this attitude of mind seems to be passing. Chemists themselves are voluntarily seeking wider horizons, and are discovering every day that the practice of chemistry can mean much, much more than sitting perched on a high stool squinting cross-eyed at something in a test-tube.

Among our members there is an almost surprising diversification of employment and interests, and, as they disclose themselves, we shall present them to you under "Chemistry—a Means to an End."

EMPLOYMENT NOTES

The Bureau of Employment of the Chemists' Club, New York, is co-operating with the Institute so that some of the better positions listed with the Bureau may be brought to the attention of the Institute's members. The Bureau welcomes correspondence with anyone interested in the following openings:

- 722 Opening for a man with experience in work on decolorizing carbons.
997 Partner for a chemical engineering firm for work in the south. Desires a young man who can contribute small amount of capital.
1002 Chemist for sales or sales service work who has had experience in heat treating. Preferably a man not over thirty-five.
1021 Research Fellow to carry on a research problem, probably in food chemistry, with full time graduate work allowed toward a Ph.D. degree.

The Bureau also has various positions for men who have received their degrees, either bachelor's, master's, or doctor's within the last two years.

It should of course be understood, that Institute members would receive introductions to these employers only under the conditions of the Bureau's regular contract.

UNITED STATES CIVIL SERVICE EXAMINATIONS

Position	Entrance Salary	File Application by
Mechanical Laboratorian	\$4.69 a day	March 25th
Metallurgical Laboratorian	\$4.69 a day	March 25th
Junior Technologist	\$2000 a year	April 8th
Junior Ceramics Technologist	\$2000 a year	April 8th

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post-office or custom-house in any city.

WANTED: TEXTILE CHEMICAL SALESMAN

- 2X30 Good opportunity with well established firm to take over the territory covered for several years by a man who has resigned. Territory: Virginia to Texas; salary: \$2400 to start; duties: to call on bleacheries and dyehouses. Preference given to young man desirous of learning this business thoroughly, and competent to build up unto the sales field. Further information on application to Howard S. Neiman, *Secretary*.

POSITION WANTED

- 2Y30 Chemist-graduate, 35, married, five years' experience acids, heavy chemicals, dye intermediates; analytical, research assistant. Five years' development production, water color pigments. Location, Greater New York preferred. Available now. Communicate with Howard S. Neiman, *Secretary*.

Disarmament and Dyes*(Continued from page 12)*

and coal-tar chemical industry which, considering the short time, is an American industrial achievement of the first order. In fact, it is an industrial achievement unparalleled in history. The eighty-two independent dye plants scattered among eighteen States, which are part of the 213 independent coal-tar chemical plants scattered among twenty-five States, are this nation's best preparedness for lasting peace. The dye plants alone serve directly textile and other industries whose annual output is valued at approximately \$3,000,000,000.

Chemical Preparedness

Military armament means tremendous expense, increased taxation, and preparedness for war,

with all its attendant twisted psychology. Coal-tar chemical plants mean no expense to the Government, reduced taxation, and preparedness for peace with the normal security so passionately longed for by all of us.

"Preparedness for peace" is precisely what the coal-tar chemical industry gives us. If this nation were forced into accepting one of the two courses, either armament without a coal-tar chemical industry or a coal-tar chemical industry without armament, it would be wiser to take the latter.

Let us limit armament by all means, but not without assuring ourselves of an adequate domestic source of the hundreds, yes, thousands, of coal-tar chemicals.

Safety first!

LITERARY NOTES

Among the books listed in the latest catalogue of the D. Van Nostrand Company, Inc., are the following by members of the Institute.

ACETATE SILK AND ITS DYES—Charles E. Mullin
CHEMISTRY AND TECHNOLOGY OF PAINTS—Maximilian Toch
COLLOID CHEMISTRY—Jerome Alexander
DICTIONARY OF CHEMICAL TERMS—James F. Couch
FROM NEWTON TO EINSTEIN—Benjamin Harrow
VITAL FACTORS OF FOOD—Carleton Ellis (with Annie Louise MacLeod)

THE MEMBERS' FORUM

This department has been introduced as a meeting place for frank discussion of Institute activities, published articles, etc. Your co-operation in helping to make it a success will be some evidence that chemists are not quite so inarticulate as is commonly supposed.—EDITOR

TO THE EDITOR:

At the risk of stirring up something of a hornet's nest I will accede to your request for comment on Professor Gordon's paper as follows:

Professor Gordon has stated that all of the graduate students in chemistry at Johns Hopkins are required to study a great deal of advanced mathematics, and that if an organic chemist were first to qualify in the modern mathematics he would then be able to be a real organic chemist. I am not sure how far Professor Gordon would have such students pursue the subject of mathematics.

Personally, I feel that mathematics has become a fad in chemistry and apparently no one has the temerity to say it nay. It probably will be regarded by many as gross heresy to question the matter, but I am sure that so far as organic chemistry is concerned the matter may very well be questioned.

A mathematical physicist of my acquaintance stated some years ago that in his opinion there were not more than a dozen men in the United States who could read the original mathematical papers of James Clerk Maxwell and understand them. Probably the same statement would apply even more narrowly to some of the recent mathematical publications regarding wave mechanics, the quantum theory, and the latest work of Einstein.

Graduate students in mathematics, studying nothing else, after three or four years of graduate work may, if they are more brilliant than the average, then begin the study of this higher mathematics which has been so usefully employed in the field of sub-atomic physics. This would be rather late in the day for a student to begin to study organic chemistry and so far as any work in organic chemistry published up to the present time is concerned, I challenge anyone to find any connection between the problems of organic chemistry and this kind of higher mathematics.

If we think for a moment of only the very outstanding work in organic chemistry including, for example, the work of Emil Fischer, von Baeyer, Nef, and more recently the beautiful work of Willstätter on chlorophyll, or that of Harrington on thyroxin one will find not a shred of mathematics in the whole of it. Probably the greatest tasks before organic chemists today are in the field of biochemistry and this means something more than measuring a few reaction velocities.

A recent book on the mechanism of homogeneous organic reactions brushes aside most of the classical work in organic chemistry as being merely qualitative, and seems to imply by relative emphasis that if only someone determines K for the reaction of chlorine on methane at some particular temperature or under some particular kind of illumination or in some particular kind of reaction vessel that this result is wonderful. Even so, nothing more than the ordinary garden variety of calculus is necessary for this wonderful kind of work.

I think that when we get over our stage fright at the mathematical gymnastics of those mathematicians who can dabble with the new wave mechanics, relativity, etc., we will cease to worship this fetish, quit following the fad, and leave this very special and very wonderful higher mathematics exactly where it belongs; namely, in the field of sub-atomic physics.

50 East 41st St., New York,
January 30, 1930.

Yours very truly,
BENJAMIN T. BROOKS

TO THE EDITOR OF *The CHEMIST*:

As I listened last month to Professor Gordon's admirable speech on the professional education of chemists, it seemed to me that his plans were more concerned with the solution of a local, perhaps temporary, need in and around the Baltimore industrial section, than to a new thoroughly worked-out plan for the selection and education of chemists destined principally for the educational fields. In my opinion neither of these two courses touches the fundamental question of the education of the chemist from the angle now much discussed, *i. e.*, the building-up of the professional and economic standing.

It cannot be too strongly emphasized that the true "professionalizing" of chemistry is a very difficult problem due mainly to the employee character of the great majority of chemists. Any difficult problem requires simple and unanimous methods for its solution. If we build up a complex scheme involving different courses, different degrees, and different grading, the scheme will fail of its complexity. Just as menacing is the resulting lack of unanimity in any complex plan involving different groups with unavoidable jealousies.

Why not look to the better elements of the professional education of the lawyer and medical doctor and take the least common denominator of both of these professions? They have succeeded in placing their work on a healthy basis and while there are weaknesses in both, we have a "lot to go" to come up to them. When and if a time comes that these two professions will be degraded to merchants, laborers, or "driven into the sea," it won't make much difference how the chemist had been educated.

The first common element in the education of both physician and lawyer is a required pre-professional cultural course which is now two years of college (N. Y. State). The wisdom of some cultural work is beyond question.

The second common element is a rather standardized minimum course without which no man is a physician or a lawyer (the number of lawyers admitted to the bar on mere clerkship is now negligible) and at the same time a maximum educational qualification. No man is asked to show a day more of school training to occupy the highest position. School training beyond these standard courses is very seldom undertaken and never even discussed. The only question is "Is the man a licensed physician?" or "Is he admitted to the bar?"

The third common element is an official admission to practice which is only granted after general examination of the applicant.

Let us then organize the education of the chemist along these lines and set up (a) one or two years pre-chemical cultural work, (b) a four-year standardized required course exclusively in chemistry and allied sciences with some electives along limited lines but all science, (c) a short apprenticeship period, (d) official admission to practice chemistry with a "copyrighted" title.

I realize that the education and admission of those who are now chemists is a subject that will have to be dealt with separately, wisely, and leniently; but these present remarks are concerned only with future education.

It is not my intention to put forth any exact plan but merely to suggest discussion along the lines of simplicity and united front of the rank and file of the profession. I do not believe that this can be attained by increasing the number and variety of courses a man can take to become a chemist, *i. e.*, from a half-year evening course to a full seven-year study combining cultural and chemical work.

VICTOR P. GERSHON

50 East 41st Street, New York City,
February 3, 1930.

THE NEW MEMBERS

Fellows

HANS THATCHER CLARKE, Professor of Biological Chemistry, College of Physicians & Surgeons, Columbia University, New York, N. Y.

HERSCHEL I. EISENMAN, Chemist, A. Hollander & Son, Inc., 143 E. Kinney Street, Newark, New Jersey.

ALBERT L. HALL, Head Chemist, Lucius Pitkin, Inc., 47 Fulton Street, New York, N. Y.

LEON JAFFE, Inspector of Foods, Department of Health, 505 Pearl Street, New York, N. Y.

MISS FRANCES KRASNOW, Instructor of Biochemistry, Columbia University, 630 West 168th Street, New York, N. Y.

MORRIS L. WEISS, Vice-President in Charge of Research, Dovon Chemical Corporation, North End Courtland Street, Belleville, New Jersey.

Associates

JULIUS JOHN GATYAS, Chemist, Department of Purchase, 480 Canal Street, New York, N. Y.

WALTER WEINBERGER, Chemist, Pease Laboratories, 39 West 38th Street, New York, N. Y.

Junior

DONALD L. REED, Junior Chemical Engineer, Bureau of Chemistry & Soils, Color Laboratory, Arlington Farm, Washington, D. C.

To keep your year-book up to date, we suggest that you paste these new names in your book each month.

NOTES FOR YOUR YEAR-BOOK

Please note the following changes in addresses of our members:

SIDNEY P. ARMSBY (page 18), c/o Haden Lime Co., 1720 Shepard Street, Houston, Texas.

LEOPOLD WEICHSLEDER (page 39), 3050 Wallace Avenue, Bronx, New York.

DECEASED

Dr. Berthold Wuth, F. A. I. C., died on December 28, 1929, at Badenweiler, Germany. Dr. Wuth's last New York address was at 134 Cedar Street.

Ethics—What Are Ethics?

(Continued from page 10)

"And so on—far into the night."

One question was not—because it could not be—definitely answered. Curiosity prompts us to sound for personal reactions and to put it up for answers from the membership at large.

?

If you were employed by a firm which manufactured products that you knew did not conform to the claims made for them, or were actually worthless.

What Would YOU Do?

F. E. W.

?

**SEND YOUR ANSWERS IN FOR NEXT MONTH'S
MEMBERS' FORUM**

The January issue was so late that we went through a few horrible moments of fear that you might not see it at all. However we hope you liked it.

We really do want contributions. How we do yearn for some message from the fastnesses of New England! And especially from "those great wide-open spaces (Buffalo and all points west) where men are men" and chemists are—what? That is just what we would like to know.

**PLEASE SEND EVERYTHING INTENDED FOR PUBLICATION
DIRECTLY TO THE EDITOR.**

Chemistry—A Profession

(Continued from page 7)

by the public of the value of these services. Suitable salaries to the judiciary have served to elevate the standard of compensation throughout the entire legal profession.

The road to better compensation for chemists in general lies in having the public recognize the dignity and value of the chemical profession by a general level of competent performance such as the Institute seeks to create. Auxiliary to this should be constant efforts to increase the rate of compensation in the Federal, State, and Municipal services. The recent victory of the Municipal Chemists of the City of New York with the aid of the Institute is a victory for all

chemists. Compensation in industry and in official services influence each other. We can help raise the level in the official services by united efforts and the level of compensation in industry will rise accordingly.

Our slogan should be: "Chemists of America unite in the Institute! Improve the education of chemists and elevate their standards of performance. Weed out the incompetent and dishonest. Seek recognition of the great public. Lend a shoulder to every just effort by chemists in the official services to improve their conditions and increase their compensation. Unite your efforts for professional improvement, professional recognition, and professional compensation."

BARNSTEAD WATER STILLS

The Choice of Discriminating Scientists

Furnish a very pure water at a low cost. Automatic in action and of durable construction. Require no attention except occasional cleansing.

The Electrically Heated Stills use standard G. E. units which are very efficient, last almost indefinitely, and are readily replaceable. Steam Heated Stills are for pressures from 35 to 100 pounds and of capacities from 1 gallon to 100 gallons per hour. Kerosene Heated Stills range up to 5 gallons per hour and Gas Heated Stills up to 10 gallons per hour.

Full details of Barnstead Stills, also of other forms of laboratory apparatus, as well as of chemicals and drugs will be furnished on request.

EIMER & AMEND

Est. 1851

Inc. 1897

Headquarters for Laboratory Apparatus and Chemical Reagents

We have no agents. To be sure of E. & A. material order direct.

Third Ave., 18th to 19th St.

New York, N. Y.

DIGNITY

Are you dignified? If so, why?
 Is it because of what you are,
 —what your ancestors were,
 —or what you hope your descendants will be?
 Is it because of something you have done,
 —something you can do,
 —something you know,
 —or something you possess?
 Is it because of some reputation you have,
 —or some reputation you would like to get?
 Is it because of definite notions of what is right and proper,
 —or vague notions of what someone else thinks is right and proper?
 Or do you just happen to be that way,
 often wishing that you could relax and enjoy yourself
 like some of the more frivolous persons that you meet?

* * *

It has been said that "Most chemical societies aim to make chemists out of human beings; The American Institute of Chemists aims to make human beings out of chemists."

JOIN THE AMERICAN INSTITUTE OF CHEMISTS:

FILL OUT THIS REQUEST FOR AN APPLICATION BLANK AND
 SEND IT IN NOW

.....
 HOWARD S. NEIMAN, *Secretary*
 The American Institute of Chemists
 233 Broadway
 New York, N. Y.

Please send me an application blank for membership in the American
 Institute of Chemists.

Name.....

Position.....

Address.....

City.....State.....